

Appl. No. 10/789,706
Amdt. Dated May 2, 2005
Reply to Office Action of Feb. 22, 2005

REMARKS

Applicant appreciates the Examiner's prompt reply. Anyhow, Applicant can not agree with the Examiner's opinion in the advisory action. In the last response dated 03/30/2005, the Examiner treated the newly added limitations in claim 10 will raise the new issue requiring further search and consideration. It is not true. In fact, the newly added limitations in the amended claim 10 presented in the last response, were essentially cited in the original claim 11 which depended upon claim 10 and were already considered by the Examiner. There should have been no new issue involved in the amended claim 10 presented in the last response. *Applicant also notices that the current examiner is not the one issuing the final office action. It may be the reason why the current examiner does not pay attention to the essence of the amended claim 10 which only reflects the subject matters of the original claim 11 without inducing the new issues.* Anyhow, for not confusing the Examiner, in this supplemental amendment Applicant amends claim 11 to be in an independent form without changing any words for not misleading the Examiner. It is believed that the sole remaining claim 11 in this amendment defines the subject matters exactly same as what it presented in the first response dated 12/09/2004, thus resulting in no new issues. Also, Applicant has canceled claims 1-10 without prejudice accordingly for simplifying the Examiner's examination.

Claim Rejections Under 35 U.S.C. 102

Claims 1-2 and 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Chiu (US 5,858,475).

Examiner states that "Chiu discloses a method for coating photoresist on a substrate comprising: forming grooves/recesses and protrusions on a substrate;

Page 3 of 8

Appl. No. 10/789,706

Amdt. Dated May 2, 2005

Reply to Office Action of Feb. 22, 2005

applying photoresist on the substrate; and vibrating the substrate so that the photoresist forms a uniform coating over the grooves/recesses and protrusions. Chui uses an ultrasonic vibrator to vibrate the photoresist coating, and ultrasonic vibration waves would vibrate the substrate in both vertical and horizontal directions...”

In response to this rejection, applicant has canceled claims 1-10. Applicant respectfully traverses the rejection as follows:

Amended claim 11 recites *“in step (b), a plurality of nozzles being respectively located right above apexes of the corresponding protrusions for spraying said photoresist”*.

Applicant asserts that Chiu merely discloses a spin coating method coupling an ultrasonic wave generator to either the chuck or the spindle of the chuck for improving the planarization of a photoresist. Chiu fails to teach all the limitations of the method for coating photoresist as set out in amended claim 11.

Applicant further asserts that there is nothing in the cited reference that teaches or suggests to one of ordinary skill in the art that it might or should provide the methods of amended claim 11. Moreover, the methods of amended claim 11 produce new and unexpected results. That is, the photoresist is evenly distributed. Accordingly, amended claims 11 is submitted to be patentable over Chiu under both 35 U.S.C. 102(b) and 35 U.S.C. 103. Reconsideration and withdrawal of the rejection and allowance of amended claim 11 are respectfully requested.

Claim Rejections Under 35 U.S.C. 103

Claims 4-5 and 11 are understood to be rejected under 35 U.S.C. 103(a) as

Appl. No. 10/789,706
Amdt. Dated May 2, 2005
Reply to Office Action of Feb. 22, 2005

being unpatentable over Chiu as applied to claims 1-2 and 7-10 above, and further in view of Takamori et al (US 6,635,113).

Claims 1-3 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minoura et al (US 2003/0053015) in view of Chiu.

Examiner in the first Office action mailed Sep. 9, 2004 essentially states that "Minoura et al discloses a method of making an array having grooves/recesses and protrusions that are contiguous and parallel to each and which have a triangular cross section. Chiu is cited for its teaching of how to form a uniform resist coating on a non-uniform substrate... It would have been obvious for one having ordinary skill in the art to have used the resist coating and vibrating method of Chiu in order to provide a uniform resist mask coating on the array of Minoura et al..."

In response to the rejection, applicant has canceled claims 1-10, and respectfully traverses as follows:

Amended claim 11 recites "*in step (b), a plurality of nozzles being respectively located right above apexes of the corresponding protrusions for spraying said photoresist*".

Applicant acknowledges that Minoura et al discloses a method of making an array having grooves/recesses and protrusions. However, Chiu merely discloses a spin coating method coupling an ultrasonic wave generator to either the chuck or the spindle of the chuck for improving the planarization of a photoresist. Minoura et al in view of Chiu fail to teach or suggest the limitation "*a plurality of nozzles being respectively located right above apexes of the corresponding*

Appl. No. 10/789,706
Amtd. Dated May 2, 2005
Reply to Office Action of Feb. 22, 2005

protrusions for spraying said photoresist as set out in amended claim 11. Thus, the combination of the references does not teach or suggest a method for coating photoresist comprising all the limitations recited in amended claim 11.

In summary, there is nothing in the cited references that teach or suggest to one of ordinary skill in the art that they might or should provide the methods of amended claim 11. Furthermore, the methods of amended claim 11 produce new and unexpected results. That is, the photoresist is evenly distributed. Accordingly, amended claim 11 is submitted to be patentable over Minoura et al in view of Chiu. Reconsideration and withdrawal of the rejection and allowance of amended claim 11 are respectfully requested.

Claims 1, 4, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akram et al (US 5,609,995) in view of Parodi et al (US 5,798,140).

Examiner essentially states that "Akram et al discloses a method of coating photoresist onto a substrate, ... [which] as a whole is generally directed to vibrating the substrate in order to spread coating material to form an even coating over the substrate's uneven surface. Parodi et al teaches that the vibrating is performed by either oscillation or orbital rotation, both of which involve vibrating the substrate in the horizontal direction."

In response to the rejection, applicant has canceled claims 1, 4, and 8, and respectfully traverses as follows:

Amended claim 11 recites ***"in step (b), a plurality of nozzles being respectively located right above apexes of the corresponding protrusions for***

Appl. No. 10/789,706
Amdt. Dated May 2, 2005
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spraying said photoresist".

Applicant acknowledges that Akram et al discloses a method of coating photoresist onto a substrate, which as a whole is generally directed to vibrating the substrate in order to spread coating material to form an even coating over the substrate's uneven surface. However, as indicated by Examiner, Parodi et al merely teaches that the vibrating is performed by either oscillation or orbital rotation, both of which involve vibrating the substrate in the horizontal direction. Akram et al in view of Parodi et al fails to teach or suggest the limitation "***a plurality of nozzles being respectively located right above apexes of the corresponding protrusions for spraying said photoresist***" as set out in amended claim 11. Thus, the combination of the references does not teach or suggest a method for coating photoresist comprising all the limitations recited in amended claim 11.

In summary, there is nothing in the cited references that teach or suggest to one of ordinary skill in the art that they might or should provide the methods of amended claim 11. Furthermore, the methods of amended claim 11 produce new and unexpected results. That is, the photoresist is evenly distributed. Accordingly, amended claim 11 is submitted to be patentable over Akram et al in view of Parodi et al. Reconsideration and withdrawal of the rejection and allowance of amended claim 11 are respectfully requested.

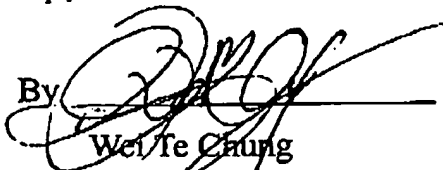
In view of the foregoing, the present application as claimed in the pending claims is considered to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,
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Page 7 of 8

Appl. No. 10/789,706
Amndt. Dated May 2, 2005
Reply to Office Action of Feb. 22, 2005

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